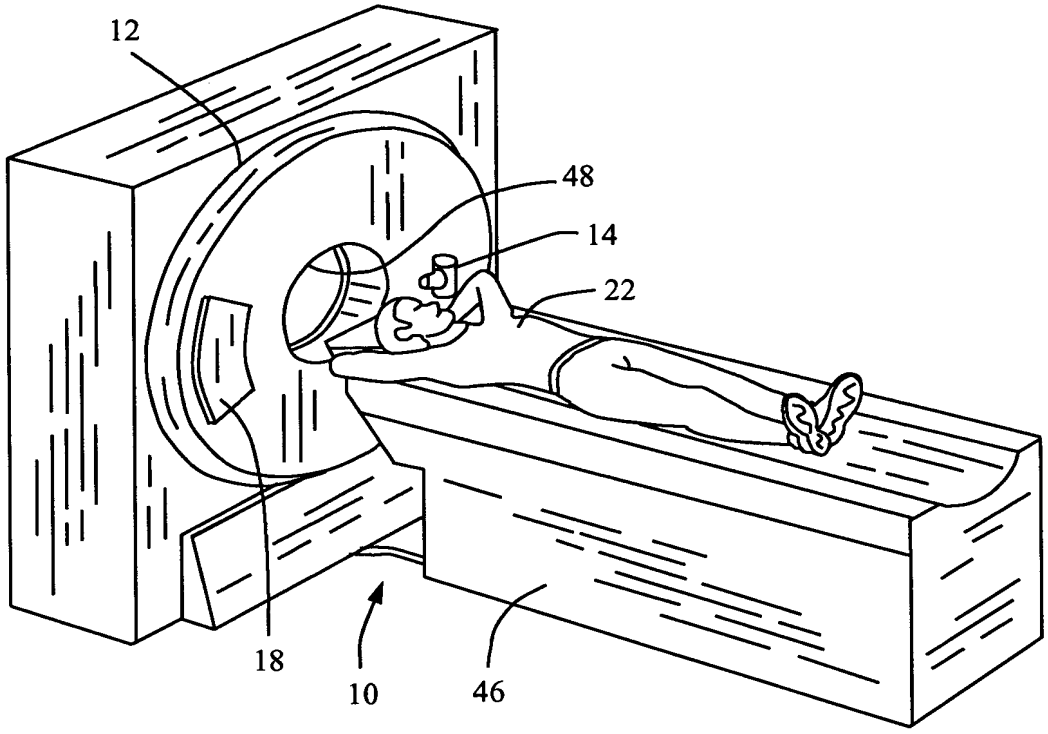

FIG. 1

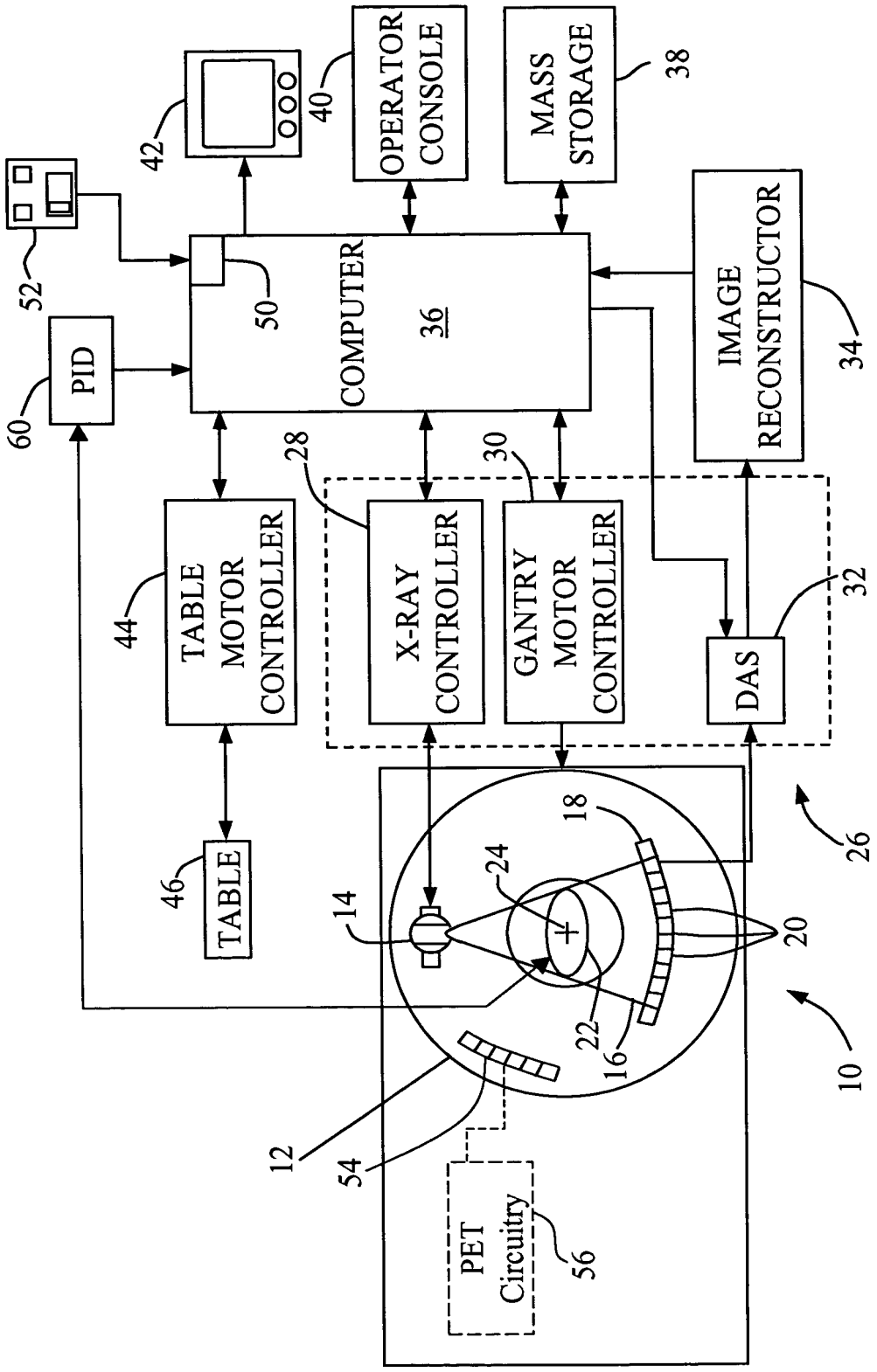
OPERATOR CONSOLE
40
MASS STORAGE
38
42
52
50
COMPUTER
36
IMAGE RECONSTRUCTOR
34
PID
60
28
30
TABLE MOTOR CONTROLLER
44
X-RAY CONTROLLER
GANTRY MOTOR CONTROLLER
DAS
32
18
24
26
46
TABLE
14
20
22
16
10
12
54
PET Circuitry
56

FIG. 2

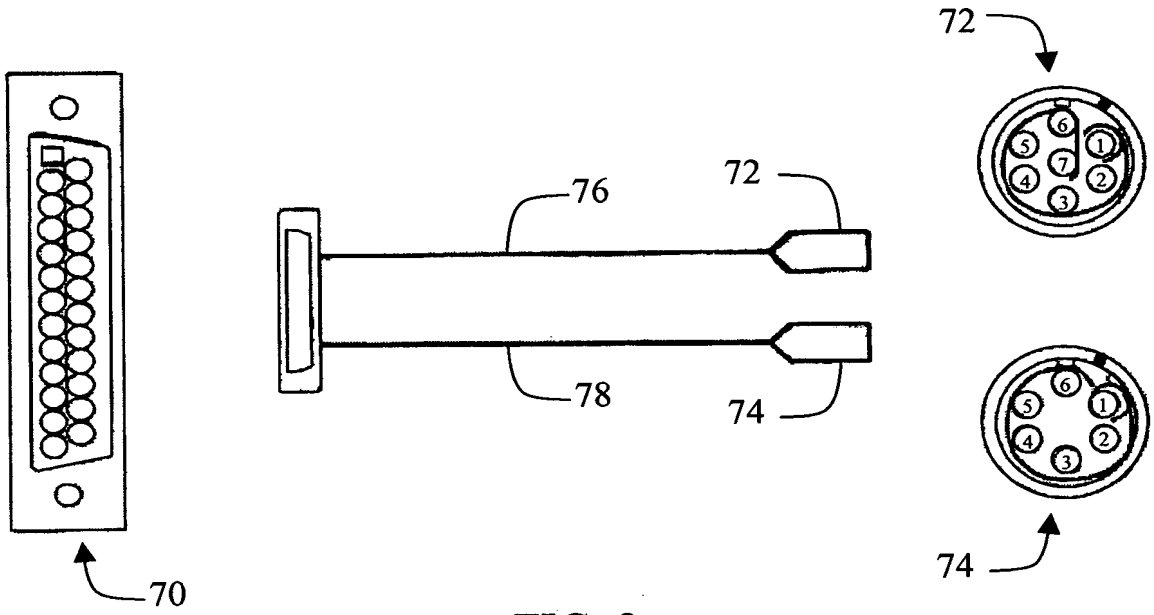

FIG. 3

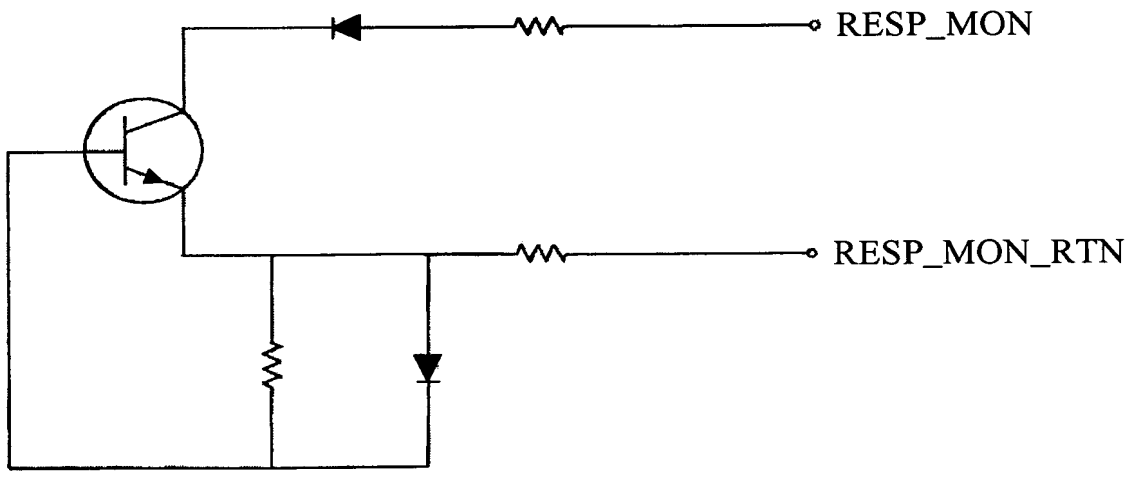

FIG. 4

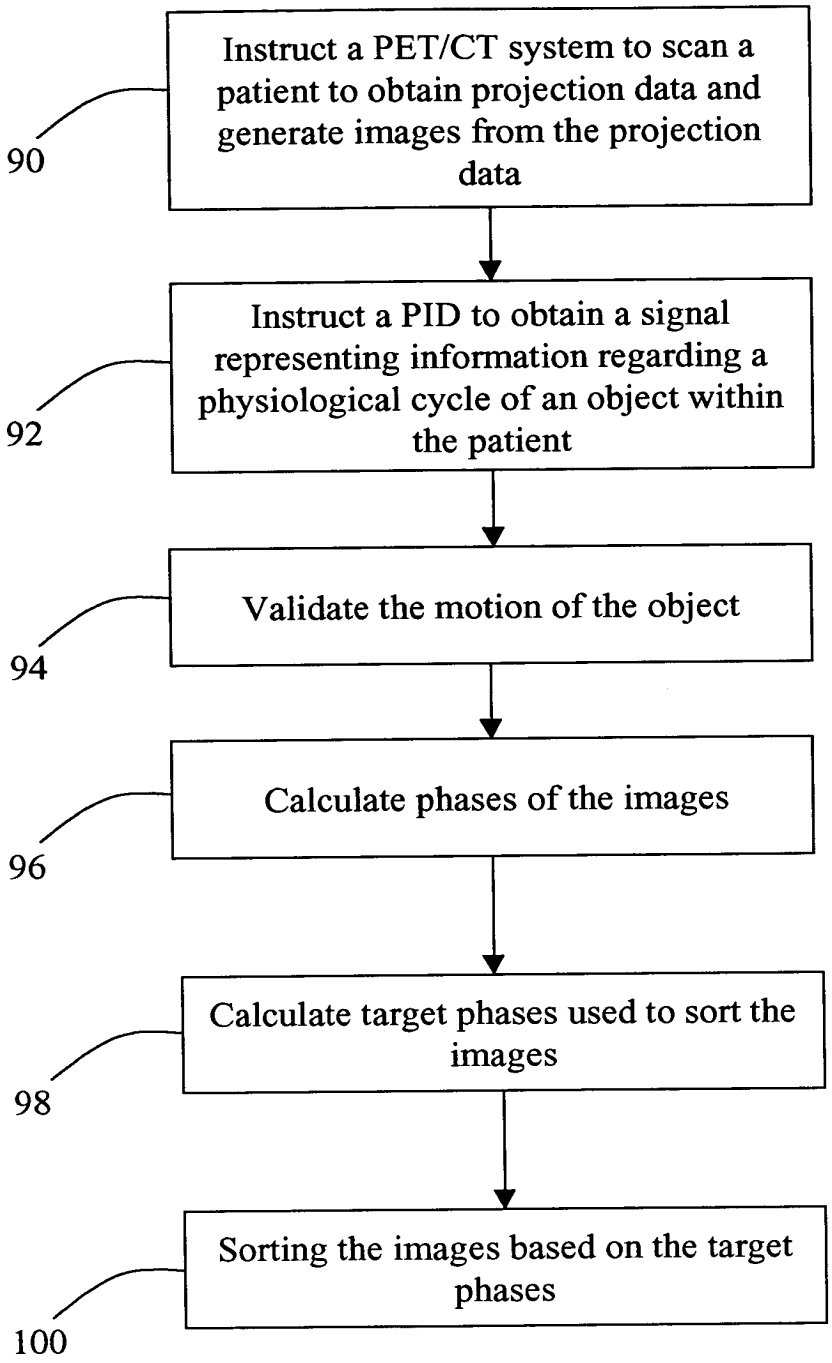
Instruct a PET/CT system to scan a patient to obtain projection data and generate images from the projection data
90
Instruct a PID to obtain a signal representing information regarding a physiological cycle of an object within the patient
92
Validate the motion of the object
94
Calculate phases of the images
96
Calculate target phases used to sort the images
98
Sorting the images based on the target phases
100

FIG. 5

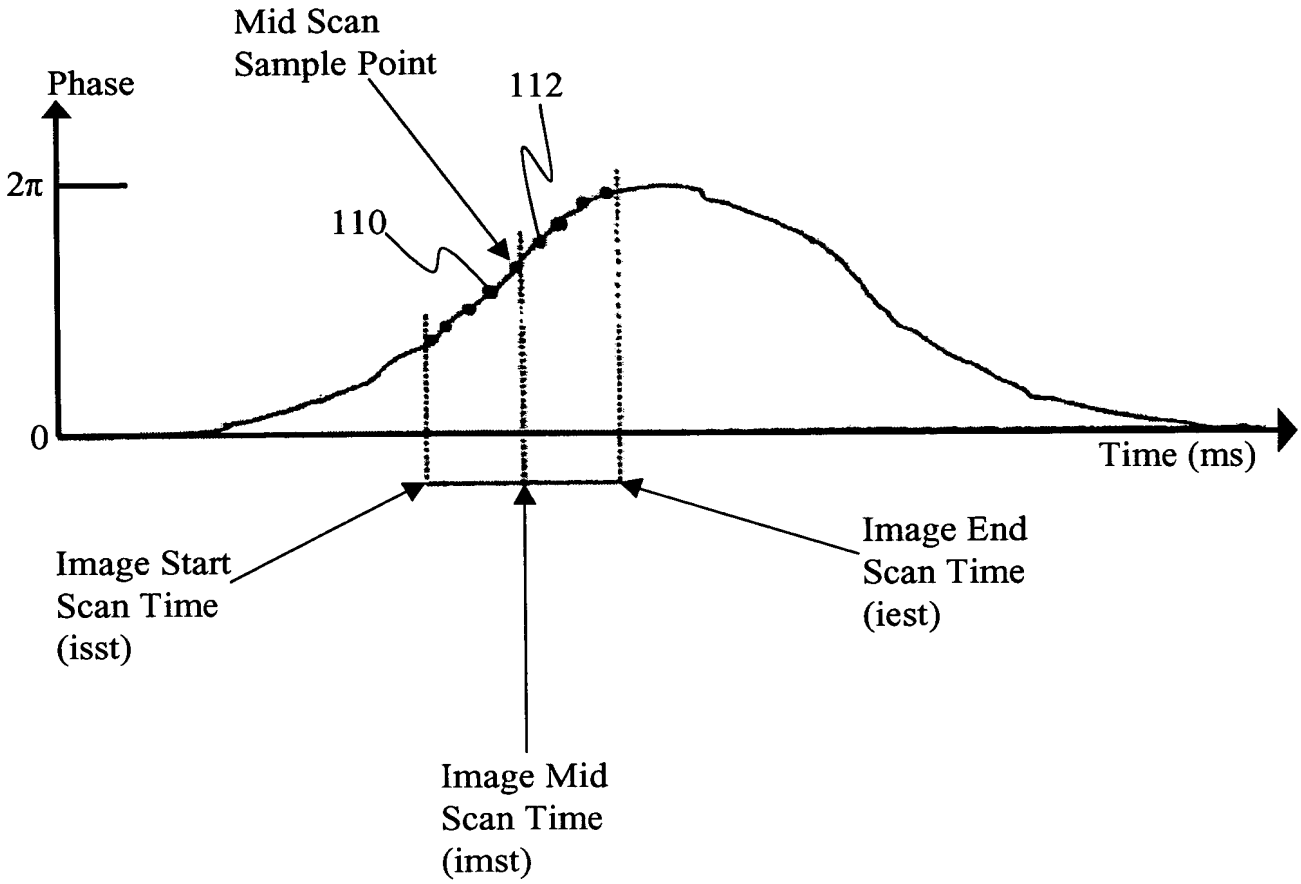
Mid Scan
Sample Point
112
Phase
2π
110
0
Time (ms)
Image Start
Scan Time
(isst)
Image End
Scan Time
(iest)
Image Mid
Scan Time
(imst)

FIG. 6

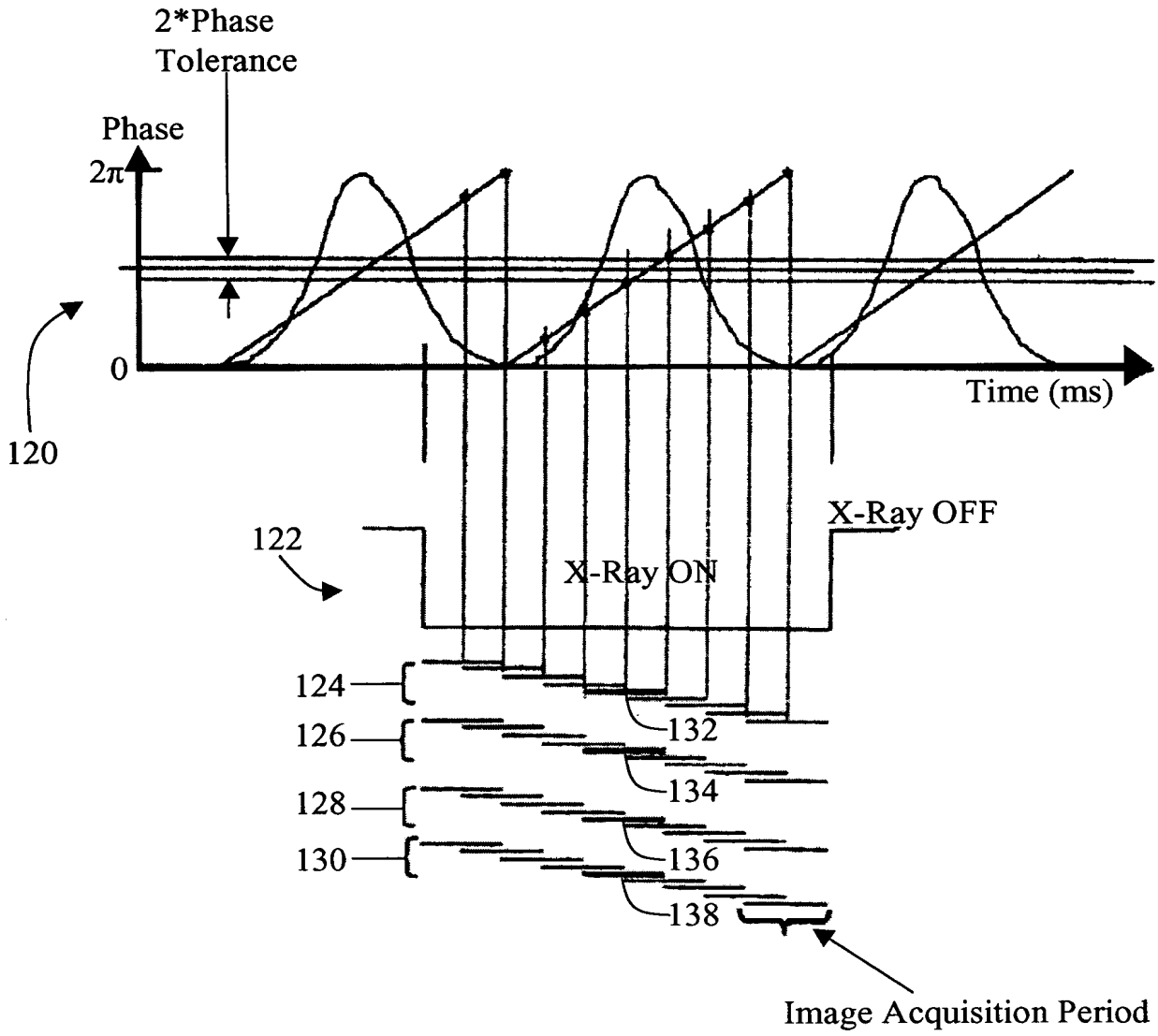
2*Phase
Tolerance
Phase
2π
0
Time (ms)
120
122
X-Ray ON
X-Ray OFF
124
126
128
130
132
134
136
138
Image Acquisition Period

FIG. 7

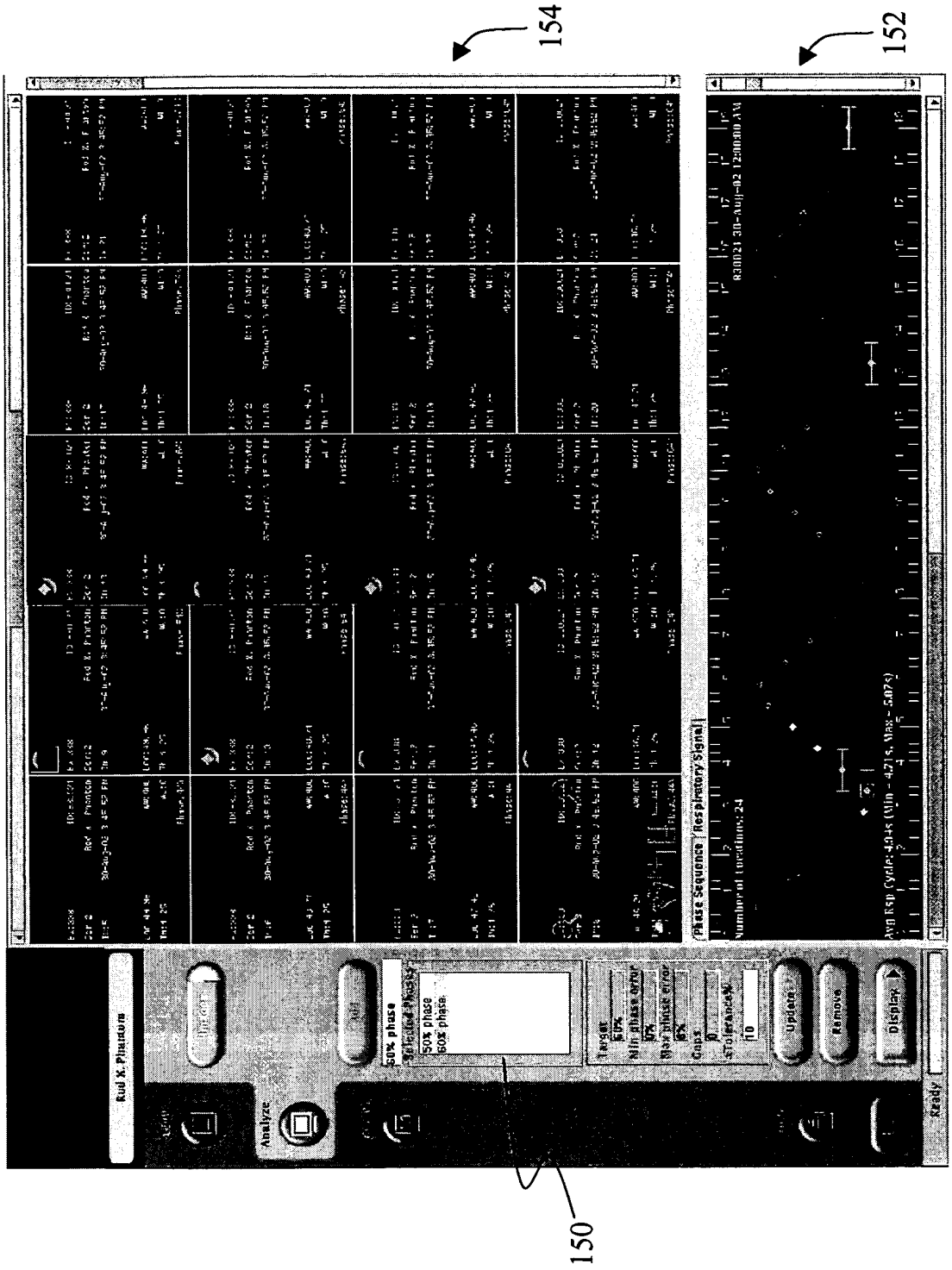
154
152
150
Rod X. Phantom
Analyze
Update
Remove
Display
Ready
50% phase
50% phase
60% phase
Phase Sequence
Respiratory Signal

FIG. 8

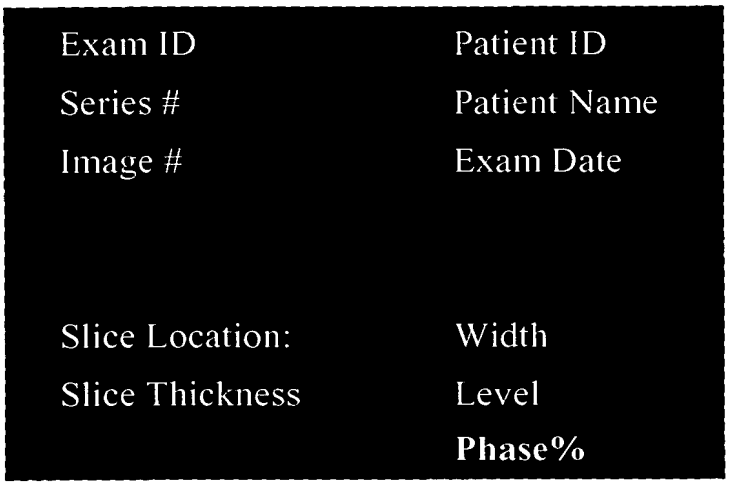
Exam ID
Patient ID
Series #
Patient Name
Image #
Exam Date
Slice Location:
Width
Slice Thickness
Level
Phase%

FIG. 9

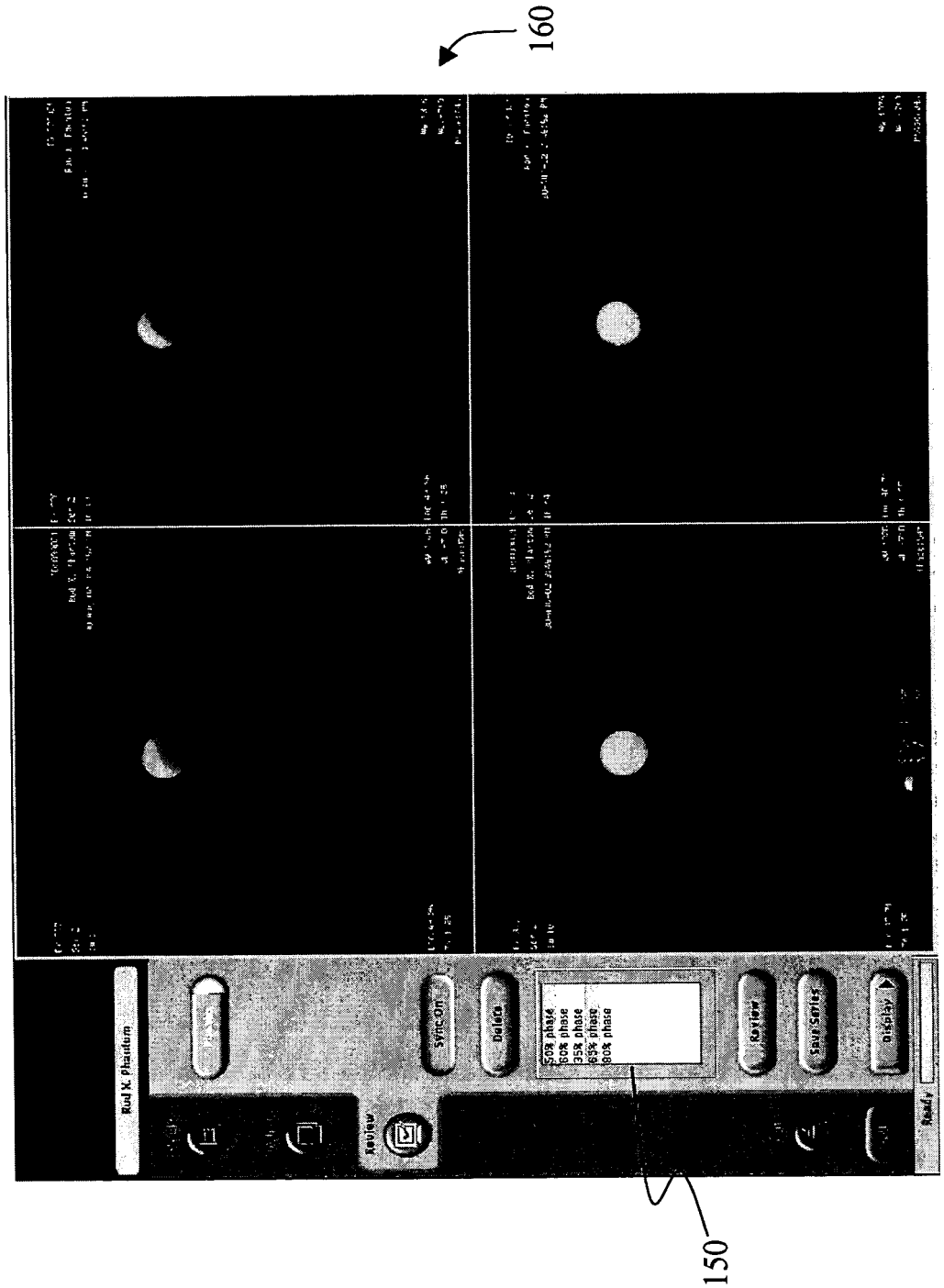
160
Rod M. Phantom
Review
Sync On
Delete
50% phase
60% phase
35% phase
65% phase
80% phase
Review
Save Series
Display
Ready
150

FIG. 10

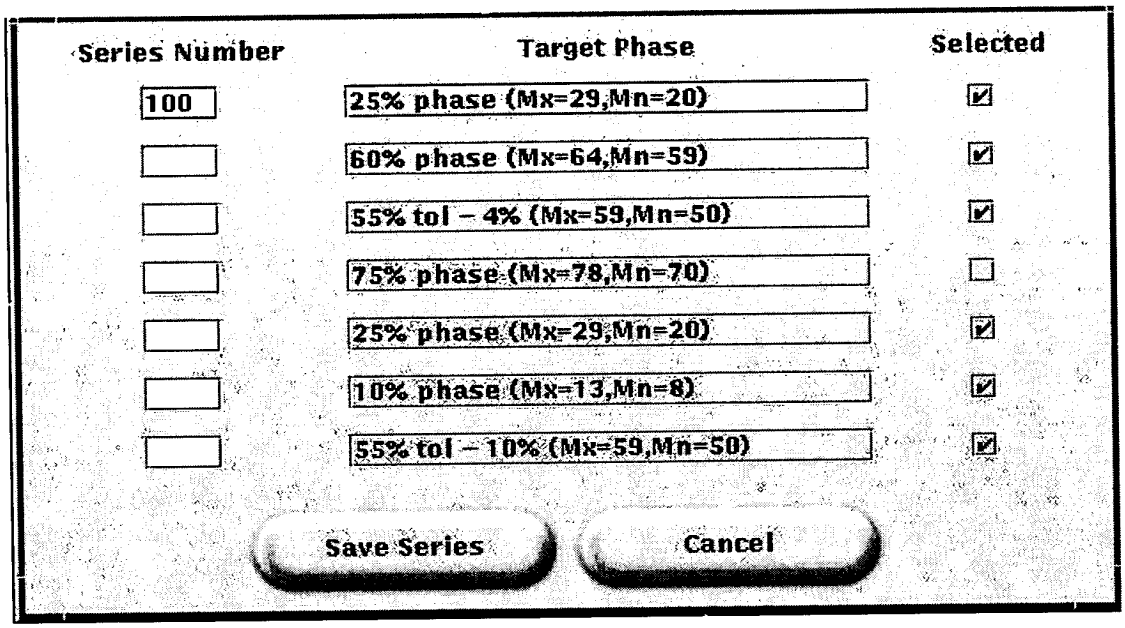
Series Number
Target Phase
Selected
100
25% phase (Mx=29,Mn=20)
60% phase (Mx=64,Mn=59)
55% tol – 4% (Mx=59,Mn=50)
75% phase (Mx=78,Mn=70)
25% phase (Mx=29,Mn=20)
10% phase (Mx=13,Mn=8)
55% tol – 10% (Mx=59,Mn=50)
Save Series
Cancel

FIG. 11